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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,722	11/16/2001	Dayong Chen	4015-1702	2826
24112 7590 05/14/2007 COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			EXAMINER WANG, TED M	
			ART UNIT 2611	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

5K

Office Action Summary	Application No. 10/002,722	Applicant(s) CHEN ET AL.	
	Examiner Ted M. Wang	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-22 is/are allowed.
- 6) ☒ Claim(s) 1,2,7 and 11 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The indicated allowability of claims 1, 2, 7 and 11 are withdrawn in view of the newly discovered reference(s) to the admitted prior art of the instant application.

Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2, 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuutijarvi (US 7,024,193) in view of the admitted prior art of the instant application.

- With regard claim 1, Tuutijarvi discloses a method of classifying a received data frame as belonging to one of a plurality of possible classes (Fig.2 DTC and Fig.3 DCCH), each of said classes having a corresponding format wherein a known bit pattern is located in different a respective position within said data frame (Fig.2 DTC with known patterns, SYNC, SACCH, CDVCC and Fig.3 DCCH with known bit patterns, SYNC, SCF, CSFP), said method comprising:

receiving said frame (Figs.1-3 and column 5 lines 36-46, where Fig.2 is the DTC frame structure and Fig.3 is the DCCH frame structure);

computing a first value (column 2 line 63 – column 3 line 1) representing a confidence-weighted correlation between said known bit pattern and data from a first position of said frame (column 3 lines 1-4 and lines 30-34), and

classifying said frame as belonging to a first class or a second class based on said first value (column 3 lines 1-4 and lines 30-34 and column 6 lines 4-38, where DTC or DCCH will be identified).

Tuutijarvi discloses all of the subject matter as described in the above paragraph except for specifically saying the received data frame as being a Discontinuous Transmission (DTX) high or low class.

However, page 1, lines 22-24, of the admitted prior art of the instant application defines the DTX-high state (class) as the state in which normal, full-length bursts are transmitted, and the DTX-low state as the state in which truncated bursts are transmitted. With this definition, Examiner considers DTC/DCCH frame as either DTX-high or DTX-low state (class). Therefore, it is clear that Tuutijarvi teaches the received data frame as being a Discontinuous Transmission (DTX) high or low class (DTC/DCCH class).

4. Claims 2, 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuutijarvi (US 7,024,193) and the admitted prior art of the instant application in view of Sato (US 5,710,772).

- With regard claim 2, Tuutijarvi and the admitted prior art of the instant application discloses all of the subject matter as described in the above paragraph except for specifically teaching computing a second value representing a confidence-

weighted correlation between said known bit pattern and data from a second position of said frame, said second position different from said first position, and wherein classifying said frame as belonging to a first class or a second class is additionally based on said second value.

However, Sato teaches computing a second value representing a confidence-weighted correlation between said known bit pattern and data from a second position of said frame (column 6 lines 23-52, where the second value could be either SYNC(1) or SYNC(2) as shown in Fig.1(c)), said second position different from said first position (where the first position is considered as a whole frame position either 68 bits or 324 bits and second position is the SYNC(1) or SYNC(2) position inside the frame as shown in Fig.1(c)), and wherein classifying said frame as belonging to a first class or a second class is additionally based on said second value (Fig.5 steps S202 –S209 and column 6 lines 23-52) in order to judge the line quality according to this sync signal (column 6 lines 58-60) so that the communication quality is improved.

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the calculation of the second value that could be either SYNC(1) or SYNC(2) as taught by Sato into Tuutijarvi's detection process so as to improve the communication quality.

- With regard claim 7, Tuutijarvi and the admitted prior art of the instant application discloses all of the subject matter as described in the above paragraph except for specifically teaching wherein said first class is a normal burst corresponding to a

discontinuous transmission-high (DTX-high) state, and said second class is a truncated burst corresponding to a discontinuous transmission-low.

However, Sato teaches that wherein said first class is a normal burst corresponding to a discontinuous transmission-high (DTX-high) state (Fig.1(b) for uplink – active speech period, Fig.5 steps S202, S210, S211, and column 6 lines 53-57), and said second class is a truncated burst corresponding to a discontinuous transmission-low (DTX-low) state (Fig.1(c) for uplink –silent period, Fig.5 steps S202 –S209, and column 6 lines 23-52) in order to reduce the detection timing of the different frame structure.

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the two different frame structures as taught by Sato into Tuutijarvi frame detection system so as to reduce the detection timing of the different frame structure.

- With regard claim 11, Tuutijarvi and the admitted prior art of the instant application discloses all of the subject matter as described in the above paragraph except for specifically teaching wherein said received data frame is processed in a first manner or in a second different from said first manner, based on the classification of said frame as belonging to a first class or a second class.

However, wherein said received data frame is processed in a first manner (Fig.5 steps S202-S208) or in a second manner (Fig.5 steps S202, S210, S211) different from said first manner, based on the classification of said frame as

belonging to a first class (Fig.5 step S202 result of 68 bits of data length) or a second class (Fig.5 step S202 result of 324 bits of data length) .

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the two different frame structures as taught by Sato into Tuutijarvi frame detection system so as to reduce the detection timing of the different frame structure.

Allowable Subject Matter

5. Claims 12-22 are allowed.
6. Claims 3-6 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

- The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach and suggest a method of classifying a received data frame as belonging to one of a plurality of possible classes, comprising determining D1, D2 and calculating the ration R steps as recited in claims 12 and 16 and computing a second value as recited in claim 2 and using DTX or CDVCC, and Euclidian as recited in claims 12 and 16, respectively.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M Wang
Examiner
Art Unit 2611

Ted M. Wang

